National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : POWER ELECTRONICAL - TRANSFORMER OIL TESTING LABORATORY, D-24, CLASSIC INDUSTRIAL PREMISES, NASHIK, MAHARASHTRA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9953 **Page No** 1 of 5

Validity 11/10/2021 to 10/10/2023 **Last Amended on** -

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Permanent Facility				
1	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insualting Oil (Tranformer Oil)	Appearance	IS 335
2	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Kinematic Viscosity at 40°C	IS 1448 [P-25/Sec-1]
3	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) - Toepler Pump Vacuum Extraction - For Carbon Dioxide (CO_2) Gas	IS 9434
4	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Acetylene (C_2H_2) Gas	ASTM D 3612-02
5	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Carbon Dioxide (CO_2) Gas	ASTM D 3612-02
6	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Carbon Monoxide (CO) Gas	ASTM D 3612-02
7	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Ethane (C_2H_6) Gas	ASTM D 3612-02
8	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Ethylene (C_2H_4) Gas	ASTM D 3612-02
9	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Hydrogen (H_2) Gas	ASTM D 3612-02
10	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Methane (CH_4) Gas	ASTM D 3612-02
11	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Furanic Compound Analysis - Method A (Liquid-liquid Extraction) - For 2-ACF	IEC 61198
12	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Furanic Compound Analysis - Method A (Liquid-liquid Extraction) - For 2-FAL	IEC 61198
13	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Furanic Compound Analysis - Method A (Liquid-liquid Extraction) - For 2-FOL	IEC 61198

SCOPE OF ACCREDITATION

Laboratory Name :	POWER ELECTRONICAL - TRANSFORMER OIL TESTING LABORATORY, D-24, CLASSIC INDUSTRIAL PREMISES, NASHIK, MAHARASHTRA, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9953	**Page No**	2 of 5
Validity	11/10/2021 to 10/10/2023	**Last Amended on**	-

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
14	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Furanic Compound Analysis - Method A (Liquid-liquid Extraction) - For 5-MEF	IEC 61198
15	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Furanic Compound Analysis - Method B (Solid-phase Extraction) - For 2-ACF	IEC 61198
16	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Furanic Compound Analysis - Method B (Solid-phase Extraction) - For 2-FAL	IEC 61198
17	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Furanic Compound Analysis - Method B (Solid-phase Extraction) - For 2-FOL	IEC 61198
18	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Furanic Compound Analysis - Method B (Solid-phase Extraction) - For 5-HMF	IEC 61198
19	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Furanic Compound Analysis - Method B (Solid-phase Extraction) - For 5-MEF	IEC 61198
20	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Acidity (Neutralization Value)	ASTM D 974
21	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Breakdown Voltage (Electric Strength)	6792
22	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Corrosive Sulpher	IEC 62535
23	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Density at 20°C	IS 1448[P-16]
24	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dielectric Dissipation Factor at 40 Hz to 60 Hz at 90°C	IS 6262
25	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) - Toepler Pump Vacuum Extraction - For Acetylene (C2H2) Gas	IS 9434
26	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) - Toepler Pump Vacuum Extraction - For Carbon Monoxide (CO) Gas	IS 9434

SCOPE OF ACCREDITATION

Laboratory Name : POWER ELECTRONICAL - TRANSFORMER OIL TESTING LABORATORY, D-24, CLASSIC INDUSTRIAL PREMISES, NASHIK, MAHARASHTRA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9953 **Page No** 3 of 5

Validity 11/10/2021 to 10/10/2023 **Last Amended on** -

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
27	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) - Toepler Pump Vacuum Extraction - For Ethane (C2H6) Gas	IS 9434
28	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) - Toepler Pump Vacuum Extraction - For Ethylene (C2H4) Gas	IS 9434
29	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) - Toepler Pump Vacuum Extraction - For Hydrogen (H2) Gas	IS 9434
30	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) - Toepler Pump Vacuum Extraction - For Methane (CH4) Gas	IS 9434
31	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Flash Point (PMCC)	IS 1448[P-21]
32	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Furanic Compound Analysis - Method A (Liquid-liquid Extraction) - For 5-HMF	IEC 61198
33	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Interfacial Tension at 27°C	IS 6104
34	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Pour Point	IS 1448[P-10/Sec-2]
35	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Resistivity at 90°C	IS 6103
36	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Sediment and Sludge	Annex 'C' of IS 1866 & Cl 4.8.1 of IEC 61125
37	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Water Content	IS 13567

SCOPE OF ACCREDITATION

Laboratory Name : POWER ELECTRONICAL - TRANSFORMER OIL TESTING LABORATORY, D-24, CLASSIC INDUSTRIAL PREMISES, NASHIK, MAHARASHTRA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9953 **Page No** 4 of 5

Validity 11/10/2021 to 10/10/2023 **Last Amended on** -

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Mobile Facility				
1	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Acetylene (C2H2) Gas	ASTM D 3612-02
2	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Carbon Dioxide (CO2) Gas	ASTM D 3612-02
3	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Carbon Monoxide (CO) Gas	ASTM D 3612-02
4	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Ethane (C2H6) Gas	ASTM D 3612-02
5	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Hydrogen (H2) Gas	ASTM D 3612-02
6	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Methane (CH4) Gas	ASTM D 3612-02
7	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil) Dissolved Gas Analysis (DGA) – Headspace Sampling - For Methane (CH4) Gas	Dissolved Gas Analysis (DGA) – Headspace Sampling - For Ethylene (C2H4) Gas	ASTM D 3612-02
8	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Acidity (Neutralization Value)	ASTM D 974
9	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Appearance	IS 335
10	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Breakdown Voltage (Electric Srength)	IS 6792
11	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Density at 20°C	IS 1448[P-16]
12	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Dielectric Dissipationn Factor at 40 Hz to 60 Hz at 90°C	IS 6262
13	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Flash Point (PMCC)	IS 1448[P-21]

SCOPE OF ACCREDITATION

Laboratory Name : POWER ELECTRONICAL - TRANSFORMER OIL TESTING LABORATORY, D-24, CLASSIC INDUSTRIAL PREMISES, NASHIK, MAHARASHTRA, INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-9953 **Page No** 5 of 5

Validity 11/10/2021 to 10/10/2023 **Last Amended on** -

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
14	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Interfacial Tension at 27°C	IS 6104
15	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Resistivity at 90°C	IS 6103
16	ELECTRICAL- INSULATING MATERIALS & INSULATORS	Mineral Insulating Oil (Transformer Oil)	Water Content	IS 13567